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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,540	12/18/2000	David Robinson	5181-59200	8380

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B. Noel Kivlin
Conley, Rose & Tayon, P.C.
P.O. Box 398
Austin, TX 78767-0398

EXAMINER

ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 05/20/2004

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,540

Applicant(s)

ROBINSON ET AL.

Examiner

Neveen Abel-Jalil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21, 22, 24-27, 29, 30, 34, 35, 38-42, 44 and 45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21, 22, 24-27, 29, 30, 34, 35, 38-42, 44 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. The amendment filed on March 5, 2004 has been received and entered. Claim 31 is now canceled. Therefore, claims 21-30, 34-35, and 38-45 are now pending.
2. Claim numbering corrections are hereby acknowledged.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-22, 24-27, 29-30, 34-35, 38-42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manczak et al. (U.S. Pub. No. 2002/0161855 A1) in view of Bennett et al. (U.S. Patent No. 5,852,747).

As to claim 21, Manczak et al. discloses a data storage system comprising:

a first volume having a first storage volume characteristic (See page 6, paragraph 0047, also see page 4, paragraph 0040);

a second volume having a second storage volume characteristic (See page 6, paragraph 0047, also see page 4, paragraph 0040); and

a computing node coupled to said first volume and said second volume, wherein said computing node includes a file system for identifying a first file stored on said first volume and a

second file stored on said second volume (See page 1, paragraphs 0006-0007, also see page 4, paragraphs 0034-0038);

wherein said file system includes a directory structure having a directory which includes a first entry corresponding to said first file and a second entry corresponding to said second file (See figures 6A-6C, also see pages 4-5, paragraphs 0040-0041).

Manczak et al. does not teach wherein in response to a request by a client to access said first file, said computing node providing metadata corresponding to said first file to said client; and

wherein said client uses said metadata corresponding to said first file to perform a subsequent access to said first file.

Bennett et al. teaches wherein in response to a request by a client to access said first file, said computing node providing metadata corresponding to said first file to said client (See column 15, lines 15-50); and

wherein said client uses said metadata corresponding to said first file to perform a subsequent access to said first file (See column 4, lines 4-38, and see column 5, lines 5-32).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Manczak et al. to include wherein in response to a request by a client to access said first file, said computing node providing metadata corresponding to said first file to said client; and wherein said client uses said metadata corresponding to said first file to perform a subsequent access to said first file.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Manczak et al. by the teaching of Bennett et al. to include wherein in

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response to a request by a client to access said first file, said computing node providing metadata corresponding to said first file to said client; and wherein said client uses said metadata corresponding to said first file to perform a subsequent access to said first file because it provides for faster processing time by storing the information on the client and eliminating the need to ask the server for the information again (See Bennett et al. column 2, lines 30-35).

As to claim 22, Manczak et al. as modified discloses wherein said file system is configured to allocate space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0035).

As to claim 24, Manczak et al. as modified discloses wherein each one of said first volume and said second volume comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

As to claim 25, Manczak et al. as modified discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See page 1, paragraphs 0009- 0010).

As to claim 26, Manczak et al. discloses a method comprising:

storing a first file on a first volume having a first storage volume characteristic based on a first set of storage characteristics desired for said first file (See pages 3-4, paragraphs 0031-0034); and

storing metadata corresponding to said first file in a first entry of a directory structure maintained by a file system (See figure 6C, also see page 5, paragraph 0041, also see figure 6C, table 633);

storing a second file on a second volume having a second storage volume characteristic based on a second set of storage characteristics desired for said second file (See pages 4-5, paragraphs 0038-0040, wherein “file is located” reads on “look-up”, and see page 3, paragraphs 0025-0031, wherein “storage characteristics” reads on “metadata”);

storing metadata corresponding to said second file in a second entry of said directory structure (See figures 6A-6D).

Manczak et al. does not teach providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file; and

said client using said metadata corresponding to said first file to perform a subsequent access to said first file.

Bennett et al. teaches providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file (See column 15, lines 15-50); and

said client using said metadata corresponding to said first file to perform a subsequent access to said first file (See column 4, lines 4-38, and see column 5, lines 5-32).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Manczak et al. to include providing said

metadata corresponding to said first file to a client in response to a request by said client to access said first file; and said client using said metadata corresponding to said first file to perform a subsequent access to said first file.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Manczak et al. by the teaching of Bennett et al. to include providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file; and said client using said metadata corresponding to said first file to perform a subsequent access to said first file because it provides for faster processing time by storing the information on the client and eliminating the need to ask the server for the information again (See Bennett et al. column 2, lines 30-35).

As to claim 27, Manczak et al. as modified discloses wherein said method further comprises allocating space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0040, wherein “volume characteristic” reads on “metadata”).

As to claim 29, Manczak et al. as modified discloses wherein said first volume and said second volume are each a logical volume, wherein at least one of said logical volumes comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

As to claim 30, Manczak et al. as modified discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See page 1, paragraphs 0009- 0010).

As to claim 34, Manczak et al. as modified discloses wherein said first and second entry each includes another field containing an index number identifying metadata corresponding to said first and second file respectively (See figure 6C, also see page 5, paragraph 0041, also see figure 6C, table 633).

As to claim 35, Manczak et al. as modified discloses wherein said first volume and said second volume each specify a set of methods for manipulating said metadata and for allocating data blocks (See page 4, paragraphs 0034-0035, also see page 1, paragraph 0003, also see page 3, paragraph 0032).

As to claim 38, Manczak et al. as modified discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D).

As to claim 39, Manczak et al. as modified discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D, also see page 4, paragraphs 0038-0040).

As to claim 40, Manczak et al. discloses a computer readable medium (See page 1, paragraph 0002) comprising instructions for operating a file system which identifies files stored by a first volume and a second volume, wherein said instructions are executable by a computing node to implement a method comprising:

storing a first file on a first volume having a first storage volume characteristic based on a first set of storage characteristics desired for said first file (See pages 3-4, paragraphs 0031-0034); and

storing metadata corresponding to said first file in a first entry of a directory structure maintained by a file system (See figure 6C, also see page 5, paragraph 0041, also see figure 6C, table 633);

storing a second file on a second volume having a second storage volume characteristic based on a second set of storage characteristics desired for said second file (See pages 4-5, paragraphs 0038-0040, wherein “file is located” reads on “look-up”, and see page 3, paragraphs 0025-0031, wherein “storage characteristics” reads on “metadata”).

storing metadata corresponding to said second file in a second entry of said directory structure (See page 1, paragraphs 0006-0007, also see figures 6A-6C, also see pages 4-5, paragraphs 0040-0041).

Manczak et al. does not teach providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file; and

said client using said metadata corresponding to said first file to perform a subsequent access to said first file.

Bennett et al. teaches providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file (See column 15, lines 15-50); and said client using said metadata corresponding to said first file to perform a subsequent access to said first file (See column 4, lines 4-38, and see column 5, lines 5-32).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention was made to have modified Manczak et al. to include providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file; and said client using said metadata corresponding to said first file to perform a subsequent access to said first file.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Manczak et al. by the teaching of Bennett et al. to include providing said metadata corresponding to said first file to a client in response to a request by said client to access said first file; and said client using said metadata corresponding to said first file to perform a subsequent access to said first file because it provides for faster processing time by storing the information on the client and eliminating the need to ask the server for the information again (See Bennett et al. column 2, lines 30-35).

As to claim 41, Manczak et al. as modified discloses wherein said method further comprises allocating space on said first volume in response to receiving a request specifying said first storage volume characteristic and said second volume in response to receiving a request specifying said second storage volume characteristic from a software application (See pages 3-4, paragraphs 0033-0035).

As to claim 42, Manczak et al. as modified discloses wherein said first entry and said second entry each include a field containing a volume identifier indicative of which of said first or said second volumes said corresponding file is stored within (See figures 6A-6D).

As to claim 44, Manczak et al. as modified discloses wherein one of said first volume and said second volume comprises a multiple storage device system (See page 1, paragraphs 0005-0006, also see page 2, paragraphs 0021-0023).

5. Claims 23, 28, 43, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manczak et al. (U.S. Pub. No. 2002/0161855 A1) in view of Bennett et al. (U.S. Patent No. 5,852,747) as applied to claims 21-22, 24-27, 29-30, 34-35, 38-42, and 44 above, and further in view of Sandstrom et al. (U.S. Patent No. 6,629,189 B1).

As to claims 23, 28, and 43, Manczak et al. as modified does not teach wherein one of said first volume and said second volume comprises a single storage device.

Sandstrom et al. teaches wherein one of said first volume and said second volume comprises a single storage device (See abstract, also see column 2, lines 49-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have further modified Manczak et al. as modified to include wherein one of said first volume and said second volume comprises a single storage device.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have further modified Manczak et al. as modified by the teaching of Sandstrom et al. to include wherein one of said first volume and said second volume comprises a single storage device because one single storage device can hold one or more logical volumes to efficiently manage different data files types being stored and retrieved.

As to claim 45, Manczak et al. as modified discloses wherein said multiple storage device system is a redundant array of inexpensive disks (RAID) storage system (See Manczak et al. page 1, paragraphs 0009- 0010).

Response to Arguments

6. Applicant's arguments with respect to claims 21-30, 34-35, and 38-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period


will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Neveen Abel-Jalil
May 16, 2004


CHARLES RONES
PRIMARY EXAMINER